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**Dr. Pawan Singh Raghav**  
Assistant Professor,  
Department of Physical  
Education, Saket College of  
Physical Education, Gondia,  
Maharashtra, India

## Comparative assessment of physical fitness in rural and urban students

**Dr. Pawan Singh Raghav**

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### Abstract

Physical fitness embodies the state of well-being allowing individuals to appear fit and perform optimally. It encompasses the functionality of the heart, lungs, and various muscle groups within the body. Given the undeniable connection between physical exertion and mental capacity, fitness exerts a notable influence on cognitive faculties such as alertness and emotional resilience. The principal objective of this study entailed a comprehensive comparison of the physical fitness levels among secondary school students residing in rural and urban areas within the Nagpur district.

In the pursuit of this investigation, a cohort of 100 male students, comprising 50 individuals from rural and 50 from urban settings, was meticulously selected in a randomized manner. The research methodology involved the utilization of the AAHPERD youth fitness test as the primary assessment tool. This test aimed to evaluate distinct parameters including strength, abdominal endurance, agility, leg strength, and speed endurance among the subjects. The assessment battery comprised specific tests such as pull-ups, sit-ups, shuttle runs, standing broad jumps, a 50-yard dash, and a 600-yard run or walk, meticulously administered by the researchers.

The outcomes of this study revealed discernible differences in the performance levels across various fitness assessments. Statistical analysis, employing the "t" test, indicated significant disparities in the results of the pull-up, sit-up, shuttle run, standing broad jump, 50-yard run, and the 600-yard run or walk between the rural and urban student cohorts. These findings underscore the variances in physical fitness standards observed between students hailing from rural and urban backgrounds within the Nagpur district.

**Keywords:** Physical fitness, rural areas, secondary school students, urban areas

### Introduction

Physical fitness refers to maximum functional capacity of all system of the body. We are exercising when ever we move and keeping our body tuned and in a good running order. The body of human is framed in such a way that it can jump, climb, bend, stretch and do more tedious work. The human body becomes more stronger as it exerts more and muscles involvement matters a lot in shaping it. Exercise helps in improving our health and builds up our energy and stamina.

Physical fitness is a state of health and well- being and, more especially, the ability to carry out daily task with vigor and alertness, and to meet unforeseen emergencies without undue fatigue.

Fitness can also be defined as any form of physical movement that utilizes multiple muscle groups in the body.

Physical fitness involves the intricate utilization of one's body, encompassing a wide spectrum of activities that promote overall health and functionality. The concept of fitness spans various aspects, representing the condition in which the body operates optimally. Achieving physical fitness signifies the harmonious functioning of bodily systems, allowing individuals to engage in physical activities without undue strain or damage. It encompasses an individual's ability to move with agility and endurance, effectively manage weights, and endure stresses like running, while maintaining stamina and preventing injury. Being physically fit extends beyond muscular development, encompassing holistic health, flexibility, and acute awareness of bodily functions.

The body, through adaptive responses, acclimates to the demands placed upon it during training. Optimal performance is achieved when the body is conditioned to specific speeds, contraction types, muscle group usage, and energy expenditure, all developed through

**Corresponding Author:**  
**Dr. Pawan Singh Raghav**  
Assistant Professor,  
Department of Physical  
Education, Saket College of  
Physical Education, Gondia,  
Maharashtra, India

consistent training. Improving strength, endurance, and overall fitness necessitates a progressive increase in the frequency, intensity, and duration of exercise routines. Exploring diverse sports activities serves as a stimulating avenue to enhance one's physical fitness.

Fitness is the condition of being physically fit and healthy and involves attributes that include, but are not limited to mental acuity, cardiorespiratory endurance, muscular strength, muscular endurance, body composition, and flexibility. While there is a standard definition for fitness, each individual can have their own personal understanding of what fitness means. To some individuals, being fit means the ability to complete a marathon or lift a lot of weight. To another, it could mean walking around the block without becoming short of breath. Your definition of fitness will be influenced by your interests, physical abilities, and goals. No matter what the definition, it is important for every individual to keep their personal definition of fitness within a healthy framework. This means you should have realistic expectations and maintain balance and moderation in all aspects of life. Set small, attainable goals and avoid giving too much power to the numerical measurements of fitness. This can help your journey to fitness seem much less daunting and much more enjoyable.

Physical fitness is generally achieved through proper nutrition, sufficient rest and moderate vigorous physical exercise. Physical fitness is one of the most important keys to a healthy body. It is the reason, a state of general well-being marked by physical health and mental stability. A person who is fit is capable of living life to its fullest extent. People who are physically fit are less prone to medical conditions and are more able to function at the peak of intellectual capacity.

There are different views regarding physical fitness. Modern definition of fitness says either a person or machine's ability to perform a specific function or a holistic definition of human adaptability to cope with various situations. To the ancient Greeks, being physically fit was of primary importance, equal to intellectual fitness.

Physical fitness can mean many things. To a physician, physical fitness may simply mean the absence of disease. To a weight lifter, it may be synonymous with large bulging muscles. To a health or physical educator, physical fitness may mean the ability to perform a specific number of calisthenics activities or to run or walk one mile in a certain time. To a health fitness professional, physical fitness means being able to acquire and maintain specific health standards.

When people are asked to define or to describe the term fitness, their most common replies deal only with the physical part of fitness. Two other parts of fitness that are often overlooked are mental-emotional fitness and social fitness. Total fitness is said to be achieved when people possess all three parts of fitness - mental-emotional, social and physical. Mental-emotional fitness is a combination of many qualities. Two of these qualities are the ability to control emotions and the ability to handle stress. A positive self-concept and the ability to feel and to show love and concern for others are other qualities of mental-emotional fitness. Social fitness is the ability to get along with people in many kinds of situations. Behaving in ways that are socially acceptable are signs of social fitness. Physical fitness is achieved when people are able to carry out their daily activities with vigour, alertness and without undue fatigue. Physically fit people also have enough energy to participate in leisure activities and to meet the stresses that are part of many emergency situations.

## Cardiorespiratory Endurance

In the most general terms, a fit person is able to perform tasks with more sustainable energy and for longer periods than an unfit person. But, fitness is more than just the ability to work longer; in fact, it includes a number of components, one of which is cardiorespiratory endurance. This is a measure of the circulatory and respiratory systems' ability to deliver oxygen and nutrients to and eliminate waste products from cells. Your cells need oxygen and nutrients in order to fuel your muscles during periods of physical activity. When your cells work they produce wastes that need to be transported away. How efficiently your body does these tasks is a measure of your cardiorespiratory endurance.

You can build your cardiorespiratory endurance through aerobic exercise, which is a type of exercise that uses oxygen to meet energy demands. The word aerobic means using oxygen, so aerobic exercise is literally exercise that uses oxygen. This is the type of exercise that we might consider with activities performed over time at low to moderate intensity, such as taking a comfortable jog around the neighborhood, riding your bicycle or rowing a boat. Aerobic exercise is important because it strengthens your heart and lungs by making them work harder. Did you ever hear that really fit athletes have very low resting heart rates? That's because a high level of fitness leads to a strong heart, which is able to pump a lot of blood with fewer heartbeats.

Understanding physical fitness can be dissected by analyzing its fundamental components: cardiorespiratory endurance, muscular strength, muscular endurance, and flexibility. Cardiorespiratory endurance denotes the body's capacity to supply oxygen and nutrients to tissues over prolonged periods while eliminating waste products. Activities like long-distance running and swimming serve as indicators of this aspect. Muscular strength represents a muscle's ability to exert force within a brief duration, often assessed through various weightlifting exercises or endurance tests like pushups. Flexibility signifies the range of motion of joints and muscles, evaluated through exercises such as the sit-and-reach test, measuring the suppleness of the lower back and upper leg muscles.

The integration of exercise into daily routines should become as natural as fundamental practices like personal hygiene. Thus, the researcher endeavors to compare the physical fitness levels of male secondary school students residing in rural and urban areas within the Nagpur district.

## Current Trends in Fitness

During the year 2020-2021, the Corona pandemic has shaken up the fitness industry. Instead of the motto "higher, faster, further", the future will see more health orientation, holistic offers and specialization in particular clientele such as risk groups. We present the seven most important fitness trends during 2020-2021 lockdown situations.

Any other year, the onset of January would have witnessed a horde of conscientious resolutionmakers hitting the gym floors to make good on their well-intentioned fitness goals. However, with the world grappling with newer mutations of the ongoing health crisis, consumer confidence in physical fitness spaces appears to have plateaued—only 31 per cent of gym-goers have chosen to continue their memberships post lockdown, according to global studies. While the queue at the gym shower may look a lot different this year, we've never been more acutely conscious of our fitness levels, believe the top trainers in the business. If you are wondering what the

year ahead will look like, here are all the ways that the world of fitness has transformed, evolved and adapted to fit the new normal in 2021.

### 1. Virtual Coaching

With gyms and fitness centres shuttered, fitness enthusiasts continued to find newer ways to get a sweat sesh in—this included making the transition to a virtual medium of coaching. There were challenges on both sides, believes Sohrab Khushrushahi, founder of Sohfit and go-to trainer for many celebrities and others. He says, “When the lockdown first started, people were initially hesitant about virtual coaching, and justifiably so. When you are carrying something heavy, you always prefer to have someone around monitoring your movement and watching your form.”

However, as the lockdown went on, both sides worked on adapting to the new medium and he predicts that its popularity will continue to soar in the new year. “Virtual coaching has helped people train beyond barriers and geographical boundaries, and this has helped the trainer as much as the ones being trained. I always believe that you get your energy from the people you are training with and that is what gives any workout a different touch altogether,” he explains.

Shwetambari Shetty, fitness expert at Cure.fit, adds that the practical benefits of virtual training sessions can be overlooked either. “Beyond just being easy and convenient with a lesser commute, virtual sessions are also less intimidating which makes the barrier for entry lower for beginners. On the other side of the table, this also works well for trainers as they can coach without a physical space,” she says.

### 2. Home Gyms

Celebrity fitness trainer Namrata Purohit believes that the corresponding increase in home gyms isn't unexpected either. Having trained the best in the biz, from many senior celebrities to young and upcoming celebrities of tinsel town. She has now observed that everyday enthusiasts are investing in their fitness as well from within the comfort of their homes. She says, “Over the course of the lockdown, people started collecting simple pieces of equipment that they can use at home, such as dumbbells, resistance bands and foam rollers. For people who don't have access to a gym or want to fit in a quick workout and skip the commute, home gyms will be a great option in 2021.”

### 3. Outdoor Workouts

While footfall is still trickling back in gyms, all trainers are in unanimous agreement that outdoor workouts will witness

a spike in demand as a safer alternative to closed, cramped spaces. Khushrushahi says, “People have grown tired of working out by themselves indoors during the lockdown of the past year, and they are now taking to open spaces that allow the mandatory six-foot distance and can serve as the canvas for a wide array of workouts, such as functional movement, lunges and even cycling.” While outdoor workouts are nothing new, Purohit adds that the switch could make for a welcome change. “This will serve as a golden chance for people to enjoy the weather outdoors and experience something new. If you're tired of running on the treadmill, opt for a brisk jog around the park instead.

### 4. Mindful Exercising

In the wake of an unprecedented year, Shetty also believes that people will now be turning to exercises that can boost the mind-body connection. “This pandemic has also left us with a greater focus on mental fitness. As work-from-home continues and the future continues to look uncertain, there will be increased demand for mindful exercises, such as meditation and yoga. The moodenhancing properties of dance fitness will also make it the go-to stress buster during this period of uncertainty,” she says.

### 5. Productive Workouts

The events of the past year have conspired to leave us with a greater appreciation for fitness, and Khushrushahi believes that the results are already visible as people look to more productive, results-driven workouts. “Despite being faced with a never-seen-before lockdown, people have become more conscious about their health than ever before. I've observed this change now in the fact that people are valuing their time more. Earlier, gyms were something of a social ground with a lot of socialising taking place in between sessions. I have now noticed that people are valuing their time more and are devoting every single minute spent to getting the most out of their workout and making their time there as productive as they can,” he says.

### Objectives of the Study

The study aims to discern the differing levels of physical fitness among secondary school students residing in rural and urban areas, elucidating potential variances.

### Selection of Subjects

The research focuses solely on male secondary school students aged between 14 and 16, encompassing 50 students from rural and 50 from urban locales within the Nagpur district, amounting to a total of 100 participants, specifically from the 9th and 10th grades.

**Table 1:** Significance of Difference between the Rural Men and Urban Men Group-wise Physical Fitness of AAHPERD Youth Fitness Test

Variable	n	Student		Mean	SD	“t” ratio
		Group				
		Rural	Urban			
		Mean	Mean	Difference		
Pulls up (No)	50	6.36	4.84	1.52	0.24	6.22
Sits up (No)	50	27.24	19.66	7.58	0.98	7.73
Shuttle run (No)	50	11.63	12.34	0.71	0.49	1.45
Standing broad jump (m/c)	50	1.62	1.50	0.12	0.064	1.88
50 yard dash (s)	50	8.29	9.39	1.08	0.36	3.0
600 yard run or walk (min)	50	1.74	2.13	0.39	0.032	12.1

Significant at 0.05 level of confidence, “t” (1.96)

**Procedure**

The examination of physical fitness among students from rural and urban areas involved the administration of the AAHPERD youth fitness test to both cohorts. This assessment aimed to gauge various facets of fitness, including strength, abdominal endurance, agility, leg strength, speed, and endurance capacity, utilizing a series of specialized tests. These examinations encompassed six distinct evaluations: pull-ups, sit-ups, shuttle runs, standing broad jumps, 50-yard dashes, and 600-yard runs or walks.

**Hypothesis**

The hypothesis postulated that significant differences would emerge in the mean scores of the aforementioned six tests between secondary school students from rural and urban areas. Statistical analysis incorporated methodologies such as mean testing and the "t" test to assess and interpret the data derived from both groups.

**Results**

The results, detailed in Table 1, were instrumental in discerning the comparative levels of physical fitness among male secondary school students hailing from rural and urban settings. The ensuing discussion revealed significant disparities, as evidenced by the outcomes of the AAHPERD youth fitness test. These findings indicated a superior level of physical fitness among secondary school students from rural areas in contrast to their urban counterparts. Specifically, in assessments pertaining to pull-ups, sit-ups, 50-yard dashes, and 600-yard runs or walks, the hypothesis supporting enhanced physical fitness among rural students was substantiated.

**Conclusion**

In conclusion, sustained physical fitness hinges upon the implementation of scientifically curated and individualized fitness regimens, bolstered by traditional and culturally ingrained practices. The enduring pursuit of wellness necessitates an ongoing awareness of various parameters contributing to holistic health. A high level of fitness and endurance are pivotal in sports achievement, as success in athletic endeavors is intrinsically linked to emotional fortitude and resilience. Moreover, optimal physical fitness and wellness in sports are fortified by sound nutritional practices coupled with meticulous training. Overall, fitness assumes a pivotal role in every facet of life, transcending boundaries and impacting diverse aspects of an individual's well-being.

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